

REPLACEMENT ABSTRACT

A composite drive shaft in which the end adapters are captured in the composite material portion during the process of manufacturing of the composite drive shaft assembly is disclosed. The end adapters include lugs that protrude outward longitudinally to transmit torque, tensile, and compressive forces, and bending moments to the composite material portion and vice versa. To increase the load carrying capacity for axial force and bending moment, the end adapters may have at least one recessed circumferential groove. Before the manufacturing process, one or more bonding agents may be applied onto the interface of the end adapter to enhance the performance of engagement between the end adapters and the composite material portion. The composite material portion and end adapters are co-cured to produce a final drive shaft that requires no additional work for assembly.